



1731

SP00-080

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Borrelli *et al.*

Serial No: 09/675,721

Filing Date: 1/10/01

Title: DEEP UV LASER
INTERNALLY INDUCED
DENSIFICATION IN SILICA
GLASSES

Group Art Unit: 1731

Examiner: Hoffmann, John M.

RESPONSE TO THE EXAMINER'S
OFFICE ACTIONAssistant Commissioner for Patents
Washington, DC 20231RECEIVED
MAR 28 2003
GROUP 1700

RESPONSE TO THE EXAMINER'S OFFICE ACTION

In reply to the Office Action dated February 7, 2003, designated as Paper No. 14 in the above-captioned application, please enter the following Amendments and Remarks as follows:

AMENDMENTS

IN THE CLAIMS

Please amend claims 16-19 and 25-39 as follows. Please add claims 40-45 as

follows:

16. (once amended) A method of writing a light guiding structure comprising the steps of:

providing a bulk glass substrate formed from a silica-based material, the substrate not being hydrogen loaded; and
focusing a beam output from a below 300 nm laser within said substrate while translating the focused beam relative to the substrate along a scan path at a scan speed effective to densify and induce an increase in the refractive index of the material along the scan path relative to that of the unexposed material while incurring substantially no laser induced breakdown of the material along the scan path,